OMB Control No. 2060-0328
Expires 09/30/2018

Implementation Plan

Transmission Sector

Company Information

Partner Address Label Here

If the information provided above is incorrect, please make corrections below.

Company Name:	Kern River Gas Transmission Company
Gas Star Contact:	Callee Butcher
Position:	Manger, Land & Environment
Address:	2755 E. Cottonwood Parkway, Suite 300
City, State, Zip Code:	Salt Lake City, UT 84121
Telephone:	801-937-6056
Fax:	801-937-6312
Email:	callee.butcher@kernrivergas.com

Implementation Plan Elements

ELEMENT 1 Best Management Practices (BMPs)

The following BMPs have been identified as significant opportunities to cost effectively reduce methane emissions from the transmission sector. They were selected based on their applicability to the industry, economic feasibility, and cost-effectiveness. There are three core BMPs for the transmission sector:

- **BMP 1** Directed inspection and maintenance at compressor stations
- **BMP 2** Use of turbines at compressor stations
- **BMP 3** Identify and replace high-bleed pneumatic devices

For detailed information on these BMPs, please refer to the *Lessons Learned* publications on the Natural Gas STAR website: *epa.gov/gasstar/tools/recommended.html*.

ELEMENT 2 Partner Reported Opportunities (PROs)

Current partners have reported many processes and technologies that are considered "other Best Management Practices" by the program. New partners are encouraged to evaluate and report current and new practices or technologies that cost effectively reduce methane emissions. PROs are made available to all partners, and can be viewed at: *epa.gov/gasstar/tools/recommended.html*.

ELEMENT 3 Inventory Past Reductions

Partners are encouraged to report past methane emission reductions back to 1990. Accounting for these historical reductions will create a permanent record of your company's methane emission reduction efforts. In addition, reviewing past activities will help guide companies' participation in Natural Gas STAR by creating a base of understanding of current activities to facilitate planning of future activities.

The Implementation Plan is designed to be a dynamic tool for Natural Gas STAR Partners to plan their program activities. As company priorities and plans shift over time, the Implementation Plan may be revised or updated by submitting a new form to the program.

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ELEMENT 1
Best Management Practices

BMP 1
Implement Directed Inspection and Maintenance at Compressor Stations

A DI&M program is a system for performing routine leak detection and repair where leak measurement data from previous inspections are used to guide subsequent inspections and direct maintenance to those leaks that are cost effective to repair.

Estimated Reduction Potential
8,540 Mcf per station

Will you be implementing this BMP? ■ Yes ☐ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- ☒ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:
Kern River will implement a company-wide leak detection and repair program at 11 compressor stations and 50 above ground facilities.

Activity Summary

Total number of compressor stations? 11

Total number of compressor stations at which DI&M will take place? 11

Inspection Schedule

Stations will be inspected: ☐ quarterly ■ annually ☐ biannually ☐ other _____

Please list in detail the number of compressor stations that will implement BMP 31 in upcoming years.

Year 2017 Number of compressor stations 11

Year 2018 Number of compressor stations 11

Year 2019 Number of compressor stations 11

Year 2020 Number of compressor stations 11

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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BMP 2
Use of Turbines at Compressor Stations

Reciprocating engines used to drive compressors throughout transmission systems release significant amounts of methane in their exhaust. Replacing these engines with turbines can reduce a large portion of these methane emissions.

Estimated Reduction Potential
0.234 Mcf/hp/hr per replacement

Will you be implementing this BMP? ☐ Yes ■ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Have already implemented
- ☒ Other No reciprocating compressors please describe:

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:
There is one compressor station with two reciprocating compressors, however those units have not operated in 7 years except for one-hour per year for annual maintenance.

Activity Summary

Please fill out the table below to show the total number of engines selected for BMP 2.

	Reciprocating Engines in Operation	Reciprocating Engines to be Retired	Turbines to Replace Retired Reciprocating Engines	New Turbine Installations (i.e., not Replacing Retired Engines)
Number				
Horsepower				
Fuel use (e.g., MMcf/year)				

Installation Schedule

Total number of turbines installed by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Total number of reciprocating engines retired by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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BMP 3
Identify and Replace High-Bleed Pneumatic Devices

Pneumatic devices used in the transmission sector actuate isolation valves and regulate gas flow and pressure at compressor stations, pipelines, and storage facilities. In the distribution sector they are used on meter runs at gate stations for regulating flow and pressure. Replacing high-bleed pneumatic devices with low- or no-bleed devices reduces or eliminates emissions and improves safety.

Estimated Reduction Potential

124 Mcf/yr/device

Will you be implementing this BMP? ☐ Yes ■ No

If no, why?

- ☐ Not cost effective
- ☐ May consider at a later date
- ☐ Have already implemented
- ☒ Other No high-bleed pneumatic devices please describe:

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
- ☐ Pilot Project
- ☐ Other _____

Please describe:

Kern River does not use high-bleed pneumatic devices.

Activity Summary

Number of high-bleed pneumatic devices in system? _____

Number of high-bleed pneumatic devices to be replaced? _____

Replacement Schedule

Number of high-bleed pneumatic devices to be replaced by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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ELEMENT 2
Partner Reported Opportunities

PROs (Partner Reported Opportunities)

Your company may take advantage of additional technologies or practices to reduce methane emissions. These can be reported to Natural Gas STAR as PROs. Following is a list of some of the PROs that have been reported by other Natural Gas STAR partners, which may be applicable to your operations (for more information on these PROs, please view: *epa.gov/gasstar/tools/recommended.html*):

- [x] Use pipeline pump-down techniques to lower gas line pressure before maintenance
- [ ] Use composite wrap repair
- [ ] Install electric compressors
- [x] Use hot taps for in-service pipeline connections
- [ ] Replace wet compressor seals with dry seals

PROs you will be implementing	Please describe
PRO Use pipeline pump-down techniques At what scale will this PRO be implemented? [x] Company Wide [ ] Pilot Project [ ] Other _____	Kern River will use pipeline pump-down techniques to lower gas line pressure before maintenance when applicable.
PRO Use hot taps for in-service pipeline connections At what scale will this PRO be implemented? [x] Company Wide [ ] Pilot Project [ ] Other _____	Kern River will use hot taps for in-service pipeline connections
PRO _____ At what scale will this PRO be implemented? [ ] Company Wide [ ] Pilot Project [ ] Other _____	
PRO _____ At what scale will this PRO be implemented? [ ] Company Wide [ ] Pilot Project [ ] Other _____	
PRO _____ At what scale will this PRO be implemented? [ ] Company Wide [ ] Pilot Project [ ] Other _____	

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ELEMENT 3
Inventory Past Reductions

An inventory of past reductions will help to create a permanent record of your past efforts.

As a first step, many new partners find it useful to inventory and document past methane emission reduction efforts. The inventory process helps companies quantify the success of their past activities and target future methane emission reduction efforts. Historical methane emission reductions identified as part of the inventory process can be reported to the Natural Gas STAR Program.

Will you inventory past activities to include in your annual report? ☐ Yes ■ No

If yes, please describe your company's plans for reviewing past methane emission reduction activities.

The Natural Gas STAR Program thanks you for your time.

Please send completed forms to:

Regular Mail
The Natural Gas STAR Program
U.S. EPA (6207J)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Express/Overnight Mail
The Natural Gas STAR Program
U.S. EPA (6207J)
1310 L Street, NW
Washington, DC 20005

Questions? Please call Jerome Blackman: (202) 343-9630 or Fax (202) 343-2202

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